

## **REMARKS**

### **Status of the claims**

Claims 1-10 are pending in the application. Claim 9 has been amended herein. The amendments to claim 9 are clarifying in nature and non-narrowing. Entry and consideration thereof are respectfully requested.

### **Statement of the Substance of the Interview**

Applicants would like to thank the Examiner for his time and thorough discussion of the invention during the interview of July 20, 2010. The Interview Summary substantially and accurately summarizes the interview.

### **Rejection under 35 U.S.C. §112, 1<sup>st</sup> paragraph**

Claim 8 has been rejected under 35 U.S.C. §112, 1<sup>st</sup> paragraph, with the assertion that the feature “encrusting machine” is not supported by the specification. Applicants believe this rejection is intended to be directed to claim 10. Applicants further traverse this rejection and withdrawal thereof is respectfully requested.

As noted in the response of December 16, 2009, the Japanese term in the original Japanese text for a “device for wrapping bean jam” is “houanki”. The transliteration of “houanki” is “device for wrapping bean jam”. However, this term is more appropriately translated as “encrusting machine”. Attached hereto is a statement from Mr. K. Nomura, which is a verification of the translation of “houanki” to “encrusting machine”. Further MPEP §201.13(II)(G), states that it is not new matter for Applicants to correct the translation of a priority application. As such, withdrawal of the rejection is respectfully requested.

### **Rejection under 35 U.S.C. §112, 2<sup>nd</sup> paragraph**

Claim 9 has been rejected under 35 U.S.C. §112, 2<sup>nd</sup> paragraph, with the assertion that the claim is unclear in the recitation of “then the Rhizopus mold inoculated sprouted brown rice and Rhizopus mold-inoculated soybean layers upside down.” Claim 9 has been amended to more clearly detail the relationship of the layers of the soybeans and brown rice and to recite, “The

method according to claim 8, wherein the mass of soybeans and sprouted brown rice is prepared by...**inverting** the Rhizopus mold-inoculated sprouted brown rice and Rhizopus mold-inoculated soybean layers...". Support for this amendment may be found at least on page 5, fifth paragraph of the specification. Withdrawal of the rejection is respectfully requested.

### **Rejections under 35 U.S.C. §103**

Claims 1-10 remain rejected under 35 U.S.C. §103 as being obvious over Hachmeister et al. (Ref. R1 in the Office Action). Hachmeister et al. is asserted to teach a process for making tempeh using soybeans fermented by *Rhizopus oligosporous*. Hachmeister et al. is further asserted to teach the production of tempeh-like products using cereal grains as substrates. Hachmeister et al. further is relied on as teaching that the problem with using whole grains to make tempeh is that the resulting tempeh lacks integrity and was not suitable for slicing. The Examiner asserts that the solution to this problem, i.e. cracking, slicing or splitting the grain, is obvious. Applicants traverse this rejection and withdrawal thereof is respectfully requested.

The instant invention, as encompassed by independent claim 1, is directed to, a fermented food obtainable by fermenting sprouted brown rice with a *Rhizopus* mold.

Hachmeister et al. state at page 172, right column, lines 22-24, "It is obvious that slightly modifying the surface of grain via cracking, slicing or splitting is essential for good growth of the mold". Based on this disclosure, the Examiner states that, "Given the modifications of the whole grain for mold growth is disclosed by R1, using sprouted rice as presently claimed would be obvious" See page 3, lines 19-20 of the Office Action. However, the Examiner's assessment of the reference teachings in view of the claimed invention is technically incorrect. As discussed in the response of December 16, 2009, cracking, slicing and splitting, as disclosed in Hachmeister et al. is a physical treatment, whereas sprouting is a biological treatment. The two approaches, i.e. physical versus biological would not be considered to be interchangeable by one skilled in the art. One of ordinary skill in the art would not believe that sprouting would have a similar effect to cracking, slicing or splitting as taught in Hachmeister et al. Indeed, if a physical treatment, such as cracking, slicing or splitting is used on rice, the rice would no longer be

capable of sprouting. As such, the disclosure in Hachmeister et al. rather than suggesting the use of sprouted rice, in fact, teaches away from sprouted rice, since the treatments in Hachmeister et al. would render the rice incapable of sprouting.

As indicated above, Hachmeister et al. actually teaches away from the instant invention and the use of sprouted rice. The rice in Hachmeister et al. was polished and cracked. See page 173, Table 22. When rice (e.g. brown rice) is polished, the germ is removed, thus rendering the rice incapable of sprouting. Cracking will similarly render the rice incapable of sprouting. Thus, it is impossible for the the rice used in Hachmeister et al. to sprout.

The Examiner further states that “The sprouted (germinated) grain would have the amylase system activated so that the tempeh mold which is not usually an amylase producer will grow better on the substrate.” See page 3, line 20, through page 4, line 1 of the Office Action. However there is no such teaching in Hachmeister et al. If the Examiner is taking official notice of such knowledge, Applicants respectfully request that the assertion be supported by a clear teaching in the prior art. Indeed, contrary to the assertion of the Examiner, the asserted technical point of the Examiner would not have been common technical knowledge at the time of the instant invention.

Finally, the Examiner states on page 4, lines 1-2 of the Office Action that “It would be also obvious to use brown rice for the color it will impart to the finished product” Thus, the Examiner appears to interpret “brown rice” only as rice, which is brown in color. However, this interpretation is technically incorrect. Rice is typically used for food after it is polished. Rice, prior to polishing, is called “brown rice” and after polishing is referred to as “white rice”. Thus, the term “brown rice” is not termed so because of the color, rather “brown rice” is also known as “unpolished rice” or “unmilled rice”, with “brown rice” being the most generally used term for rice, which has not been polished. Attached hereto is an entry from wikipedia.org, which explains the meaning of “brown rice”. As stated in the Wikipedia entry, “**Brown rice** (or “hulled rice”) is unmilled or partly milled rice, a kind of whole, natural grain.” Wikipedia further states that in comparison to white rice, “Brown rice and white rice have similar amounts of calories, carbohydrates, and protein. The main differences between the two forms of rice lie in processing and nutritional content. When only the outermost layer of a grain of rice (the husk) is

removed, brown rice is produced. To produce white rice, the next layers underneath the husk (the bran layer and the germ) are removed, leaving mostly the starchy endosperm.” Thus, contrary to the assumption of the Examiner, the term “brown rice” is not due to the color of the rice but rather because it is unmilled.

Importantly, the rice of Table 22 of Hachmeister et al. is not brown rice, but rather white rice, since it was polished. As a result, and as noted above, white rice cannot sprout because the germ has been removed. As such, it is not possible to achieve the present invention from Hachmeister et al. Nor is there any suggestion to one of ordinary skill in the art to make the necessary critical modifications to Hachmeister et al. to achieve the invention, i.e. to first replace polished rice with unpolished rice and then to replace the physical treatments of cracking, slicing or splitting with the biological treatment of sprouting.

In addition, in the final office action, the Examiner states that, “other treatment such as sprouting (though biological) which makes more sugars available to the mold (e.g. a mold lacking amylase activity) would be a logical approach and obvious to an artisan (page 5, line 21 — page 6, line 2).” This Examiner’s conclusion is based on the assumption that sugars are preferable for the *Rhizopus* mold growth. However, this assumption/conclusion is contradictory to the full disclosure of Hachmeister et al. Hachmeister et al. states that sugars are fermented to organic acids, which contribute to darkening of the product and development of objectionable flavor (page 173, left column, lines 2-11). Thus, persons skilled in the art who read Hachmeister et al. would not replace non-sprouted rice with sprouted rice which has more sugars, i.e. which would be expected to lead to more undesirable darkening of the product and objectionable flavor.

Hachmeister et al. further teaches that sugars have no effect on growth of the *Rhizopus* mold. In the TABLE 25 of Hachmeister et al., *Rhizopus oryzae* shows “Very poor” growth, while *Rhizopus oligosporus* shows “Good” growth. Since *Rhizopus oryzae* has strong amylase activity (see page 173, right column, lines 25-26 of Hachmeister et al.) while *Rhizopus oligosporus* has weak amylase activity, *Rhizopus oryzae* can utilize more sugars than *Rhizopus oligosporus*. If sugars were preferable for the growth of the *Rhizopus* mold, *Rhizopus oryzae* would grow well on wheat; however Hachmeister et al. clearly show that this is not the case.

Hachmeister et al. further state that “The fact that *R. oryzae* has strong amylase activity makes it unsuitable for use with cereal grain tempoh” (see page 173, right column, lines 25-27). This statement by the authors suggests that a high amylase activity, which is indicative of a high amount of sugars, inhibits growth of the *Rhizopus* mold rather than promotes it. Thus, one skilled in the art would again be led away from using sprouted brown rice, which would be expected to inhibit the mold growth due to an increased amount of sugar, and not promote the mold growth as suggested by the Examiner.

As such, the present invention is clearly not suggested by the disclosure of Hachmeister et al. and withdrawal of the rejection is respectfully requested.


In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact MaryAnne Armstrong, PhD, Reg. No. 40,069, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By   
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Attachments: Wikipedia entry for “brown rice”  
Statement of Verified English Translation